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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/049,272	ENGEL ET AL.	
	Examiner	Art Unit	
	KEVIN M. NGUYEN	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *84-133* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *84-133* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Application and Claims Status

Applicant's amendment and response filed on 12/08/2008 are acknowledged and entered.

Claims 84-131 were pending. Applicants have amended claims 84, 96 and 108, have added new claims 132 and 133, and have cancelled claims 1-83. Therefore, claims 84-133 are currently pending and are under consideration in this Office Action.

Response to Amendments

Applicants' arguments, see page 18, filed on 12/08/2008, with respect to previous rejections of claims 84-131 based on Armstrong et al. have been fully considered and are persuasive. The rejections of claims 84-131 based on Armstrong are withdrawn.

Applicants' arguments, see pages 12-13, filed on 12/08/2008, with respect to 112 rejections of claims 108-119 and 133 have been fully considered and are NOT persuasive. The 101 and112 rejections of claims 108-119 and 133 are made and begin at paragraph 1.

Applicants' arguments, see pages 13-18, filed on 12/08/2008, with respect to previous rejections of claims 84-107 and 120-132 based on Sullivan have been fully considered and are NOT persuasive. The reasons begin at paragraph 2.

The amendment necessitated the new ground(s) of rejection presented in this Final office action.

Attention to the applicants, **the 101 rejection** have been made in the Office action mailed 12/31/2003, page 2. The 101 rejection is repeated and updated as follows:

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims **108-119 and 133** are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent[1] and recent Federal Circuit decisions[2] indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

In United States patent law, a Beauregard claim is a claim to an article of manufacture embodied as a computer-readable medium and instructions, named after decision *In re Beauregard*. Beauregard claims cover a computer-readable medium such as a storage device, such as a floppy disk or CD, or even a communication media, containing a set of instructions that causes a computer to perform a process. In the past claims to pure instructions were generally considered not patentable because they were viewed as "**printed matter**," that is, like a set of **instructions written down on paper**. However, in In re Beauregard the Federal Circuit upheld a computer program as patentable subject matter because it was claimed in terms of an article of

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[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

manufacture as contained on a floppy disk. Consequently, such computer-readable media claims are commonly referred to as Beauregard claims.

The applicants only discloses "media containing instructions for the operation of visual display system as described" in page 3, lines 8-9. Therefore, the examiner considers that the media is the **"printed matter" like a set of instructions written down on paper**, and no where in the disclosure of the specification indicates and proves the computer.

Claims 108-119 and 133 are considered non-statutory because a non-statutory (i.e., printed matter) embodiment were disclosed in the specification, while a claim to an apparatus would be considered statutory even though a non-statutory (i.e., "software") embodiment were disclosed. If the claim is reasonably read on the corresponding software portion of the disclosure, the examiner will treat the claim as a whole as directed to entirely a software embodiment, not a hardware embodiment.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 108-119 and 133 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, since the claimed invention is not supported by either "a

computer-usable medium..." asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Regarding to claims 108-119 and 133, the applicant introduces new subject matter does not read in light of the specification into the claim, such that claimed feature "**computer readable medium**" recited in independent claim 108, lines 1-2. The original disclosure does not support the new subject matter as indicated above.

Claims 109-119 and 133 are dependent claims and are also rejected under same reasons as discussed for the independent claim 108.

Therefore, the original disclosure does not support the new subject matter as indicated above. Applicant is required to cancel the new matter in the reply to this Final Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> a. When the interpretation of the claim(s) is or may be in dispute, i.e., given one interpretation, a rejection under 35 U.S.C. 102 is appropriate and given another interpretation, a rejection under 35 U.S.C. 103(a) is appropriate.
> b. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

2. Claims **84-86, 89-91, 93-98, 101-103, 105-107, 120-123, 126, 127 and 130-132** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Sullivan (US 6,100,862).**

As to claims 84, in the alternate embodiments, **Sullivan** teaches **a system comprising: a composite display device** (a rear projector display 54, col. 6, lines 54-55; fig. 1) comprising:

a first display screen operable to display a first image using a first plurality of pixels of said first display screen (a bottom display screen 40 displays the image 86, see col. 10, lines 3-5, and lines 13-14; fig. 6) **a second display screen overlapping said first display screen** (a stack of LCD elements forms the MOE device 32, col. 10, line 31. Thus, a top display screen 42 overlaps the bottom screen 40, see fig. 7) **wherein said second display screen is partially transparent** (LCD panels 40 and 42 or the bottom and the top display screen 40 and 42 are transparent, col. 10, lines 57-59) **wherein said second display screen is operable to display a second image using a second plurality of pixels of said second display screen** (a top display screen 42 displays the image 88, see col. 10, lines 5-6, and lines 13-14; fig. 7) **a user interface component for enabling user selection of at least one display screen, said at least one display screen for responding to an input, and wherein at least one display screen comprises a display screen selected from a group consisting of said first and second display screens** (the 3D pointing device, 3D mouse, or glove move a 3D cursor anywhere in the display volume around the image 34 in the same manner as a viewer 12 moves one's hand in true space, col. 20, lines 2-5. The field of view of the MDV system 10 is continuous in all directions, that is, there are no disconcerting jumps in the 3D image 34 as the viewer 12 moves with respect to the MOE device 32, col. 20, lines 53-56.)

As to claim 85, the system of claim 84, wherein said user interface component comprises at least one is selected from a group consisting of a mouse. (Sullivan discloses 3D mouse, col. 19, lines 66-67).

As to claim 86, the system of claim 84, wherein said user interface component comprises a touchscreen. (Sullivan teaches in col. 19, lines 17-21; and col. 20, lines 19-20.)

As to claim 89, the system of claim 84, wherein said user interface component is operable to transition to display of a graphical object to said at least one selected display screen. (Sullivan further teaches that the graphical object 86 is operable to transition to the top display screen 88, col. 19, line 66 to col. 20, line 7; fig. 7.)

As to claim 90, the system of Claim 89, wherein said input is operable to adjust said display of said graphical object on said at least one selected display screen. (Sullivan teaches in col. 19, lines 58-65.)

As to claim 91, the system of claim 89, wherein said graphical object is selected from a cursor. (Sullivan teaches 3D cursor, col. 20, line 7.)

As to claim 93, the system of Claim 89, wherein said graphical object is selected from a group consisting of a graphical object associated with a drawing application and a graphical object associated with a graphical application. (Sullivan teaches in col. 20, lines 39-44.)

As to claim 94, the system of claim 84, wherein said input comprises a user input. (Sullivan discloses the user input, col. 19, line 66 to col. 20, line 7.).

As to claim 95, the system of claim 94, wherein said user input comprises an input to said user interface component. (Sullivan discloses the user input, col. 19, line 66 to col. 20, line 7).

As to **claim 96**, in the alternate embodiments, figure 1 of **Sullivan** teaches **a method of controlling display screen selection in a composite display device** (a rear projector display 54, col. 6, lines 54-55; fig. 1), **said method comprising: accessing, via a user interface component a first input, identifying for selection at least one display screen of said composite display device associated with said first input** (the 3D pointing device, 3D mouse, or glove move a 3D cursor anywhere in the display volume around the image 34 in the same

manner as a viewer 12 moves one's hand in true space, col. 20, lines 2-5) **wherein said composite display device comprises a plurality of overlapping display screens, and wherein at least one of said plurality of overlapping display screens is partially transparent** (a stack of LCD elements forms the MOE device 32, col. 10, line 31. Thus, a top display screen 42 overlaps the bottom screen 40, see fig. 7. LCD panels 40 and 42 or the bottom and the top display screen 40 and 42 are transparent, col. 10, lines 57-59) **wherein each of said plurality of overlapping display screens is operable to display respective images using a respective plurality of pixels** (a bottom display screen 40 displays the image 86, see col. 10, lines 3-5, and lines 13-14; fig. 6. A top display screen 42 displays the image 88, see col. 10, lines 5-6, and lines 13-14; fig. 7. A stack of LCD elements forms the MOE device 32, col. 10, line 31. Thus, a top display screen 42 overlaps the bottom screen 40, see fig. 7) **selecting said at least one display screen of said multi-component display for responding to a second input (t**he field of view of the MDV system 10 is continuous in all directions, that is, there are no disconcerting jumps in the 3D image 34 as the viewer 12 moves with respect to the MOE device 32, col. 20, lines 53-56).

As to claim 97, the method of Claim 96, wherein said user interface component is selected from a mouse. (Sullivan discloses 3D mouse, col. 19, lines 66-67).

Claim 98 shares the same limitations as those of claim 86 and therefore the rationale for rejection will be the same.

Claim 101 shares the same limitations as those of claim 89 and therefore the rationale for rejection will be the same.

Claim 102 shares the same limitations as those of claim 90 and therefore the rationale for rejection will be the same.

Claim 103 shares the same limitations as those of claim 91 and therefore the rationale for rejection will be the same.

Claim 105 shares the same limitations as those of claim 93 and therefore the rationale for rejection will be the same.

Claim 106 shares the same limitations as those of claim 94 and therefore the rationale for rejection will be the same.

Claim 107 shares the same limitations as those of claim 95 and therefore the rationale for rejection will be the same.

As to claim 132, the method of Claim 96 further comprising: accessing said second input; and updating, in response to said second input, an image displayed using said at least one display screen (Sullivan further teaches the 3D pointing device, 3D mouse, or glove move a 3D cursor anywhere in the display volume around the image 34 in the same manner as a viewer 12 moves one's hand in true space, col. 20, lines 2-5. The field of view of the MDV system 10 is continuous in all directions, that is, there are no disconcerting jumps in the 3D image 34 as the viewer 12 moves with respect to the MOE device 32, col. 20, lines 53-56).

As to **claim 120**, in the alternate embodiments, figure 1 of **Sullivan** teaches **an integrated display system** (a rear projector display system 10, col. 6, lines 54-55; fig. 1), comprising: **a first display screen comprising a first display portion** (a bottom display screen 40, col. 9, lines 59-60, col. 10, lines 63-67; fig. 6. Fig. 6 shows that the isometric projection of the bottom display screen 40 and the top display screen 42 overlap for a first display portion)

wherein said first display screen is partially transparent (LCD panel 40 or the bottom display screen 40 are transparent, col. 10, lines 57-59) **a second display screen comprising a second display portion** (a top display screen col. 9, lines 59-60, col. 10, lines 63-67; fig. 7. Fig. 7 shows that the isometric projection of the top display screen 42 and the bottom display screen 40 overlap for a first display portion) **wherein said second display screen is partially transparent** (LCD panel 42 or the top display screen 42 are transparent, col. 10, lines 57-59) **wherein said first display portion and said second display portion overlap** (a stack of LCD elements forms the MOE device 32, col. 10, line 31. Thus, a top display screen 42 overlaps the bottom screen 40, see fig. 7) **a user interface component for enabling user selection of at least one display screen as a selected display screen, said selected display screen for responding to an input, and wherein said selected display screen comprises a display screen selected from a group consisting of said first and second display screens** (the 3D pointing device, 3D mouse, or glove move a 3D cursor anywhere in the display volume around the image 34 in the same manner as a viewer 12 moves one's hand in true space, col. 20, lines 2-5. The field of view of the MDV system 10 is continuous in all directions, that is, there are no disconcerting jumps in the 3D image 34 as the viewer 12 moves with respect to the MOE device 32, col. 20, lines 53-56).

As to claim 121, the system of claim 120, wherein user interface is further operable to move a graphical object displayed on said first display portion of said first display screen to said second display portion of said second display screen. (Sullivan further teaches that the graphical object 86 moves the top display screen 88, col. 19, line 66 to col. 20, line 7; fig. 7.)

As to claim 122, the system of claim 121, wherein said input is further operable to move said graphical object on said second display screen. (Sullivan further teaches that the graphical object 86 moves the top display screen 88, col. 19, line 66 to col. 20, line 7; fig. 7.)

As to claim 123, the system of claim 121, wherein said graphical object is selected from a group consisting of a cursor, an icon and an image. (Sullivan teaches 3D cursor, col. 20, line 7.)

As to claim 126, the system of claim 120, wherein said user interface component is selected from a group consisting of a mouse. (Sullivan teaches 3D mouse, col. 19, lines 66-67).

As to claim 127, the system of claim 120, wherein said user interface component comprises a touchscreen. (Sullivan teaches in col. 19, lines 17-21; and col. 20, lines 19-20.)

As to claim 130, the system of claim 120, wherein said input comprises a user input. (Sullivan discloses the user input, col. 19, line 66 to col. 20, line 7.).

As to claim 131, the system of claim 130, wherein said user input comprises an input to said user interface component. (Sullivan discloses the 3D pointing device, 3D mouse, or glove move a 3D cursor anywhere in the display volume around the image 34 in the same manner as a viewer 12 moves one's hand in true space, col. 20, lines 2-5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims **88, 92, 100, 104, 124 and 129** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sullivan** in view of **Hinami** et al. (US 6,468,157, **Hinami**).

As to claim 88, **Sullivan** teaches all of the limitation of claim 84, except for said user interface component is further for enabling selection of said at least one display screen in response to a sound.

Hinami teaches a game controller 2b, fig. 1, is selected of a top display screen "a sky screen", fig. 3, in response to a sound, col. 5, lines 30-32.

Thus, it would have been obvious to a person of ordinary skill at the time the invention was made to modify Sullivan to have the sound effect as taught by Hinami. The motivation for doing so would allow operator to use the input device and hear the sound that same time.

As to claim 92, the system of claim 89, wherein graphical object is associated with a gaming application. (Hinami teaches in col. 5, lines 15-20.)

Claim 100 shares the same limitations as those of claim 88 and therefore the rationale for rejection will be the same.

Claim 104 shares the same limitations as those of claim 92 and therefore the rationale for rejection will be the same.

Claim 124 shares the same limitations as those of claim 88 and therefore the rationale for rejection will be the same.

Claim 129 shares the same limitations as those of claim 92 and therefore the rationale for rejection will be the same.

Claims **87, 99 and 128** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sullivan in view of Wilks et al. (US 6,246,407, Wilks).

As to claim 87, Sullivan teaches all of the limitation of claim 84, except for said user interface component comprises a pen. Wilks teaches said user input device is a pen, see col. 3, line 47. Thus, it would have been obvious to a person of ordinary skill at the time the invention was made to modify the touching input of Sullivan to be touched by pen as disclosed by Wilks. The motivation for doing so would allow the operator to use variable input devices.

Claim 99 shares the same limitations as those of claim 87 and therefore the rationale for rejection will be the same.

Claim 128 shares the same limitations as those of claim 87 and therefore the rationale for rejection will be the same.

Response to Arguments

Applicant's arguments filed on 12/08/2008 have been fully considered but they are not persuasive.

With respect to claims 108-119 and 133, the applicants only discloses "**media** containing instructions for the operation of visual display system as described" in page 3, lines 8-9. These are not found to be persuasive. The examiner considers that the media is the **"printed matter" like a set of instructions written down on paper**, and NO where in the disclosure of the specification indicates and proves the computer. Furthermore, the applicants indicates the software in page 3, lines 21-22. These are not found to be persuasive. The examiner further

considers that claims 108-119 and 133 are considered non-statutory because a non-statutory (i.e., printed matter) embodiment were disclosed in the specification, while a claim to an apparatus would be considered statutory even though a non-statutory (i.e., **"software") embodiment were disclosed.** If the claim is reasonably read on the corresponding **software portion** of the disclosure, the examiner will treat the claim as a whole as directed to entirely a software embodiment, NOT a hardware embodiment.

With respect to claims 84, 96 and 120, Applicants contends that Sullivan fails to provide teaching or suggestion for limitation "a system comprising: a composite display device comprising: a first display screen operable to display a first image using a first plurality of pixels of said first display screen a second display screen overlapping said first display screen, wherein said second display screen is partially transparent wherein said second display screen is operable to display a second image using a second plurality of pixels of said second display screen a user interface component for enabling user selection of at least one display screen, said at least one display screen for responding to an input, and wherein at least one display screen comprises a display screen selected from a group consisting of said first and second display screens."

Thus, the device of Sullivan does not anticipate the presently claimed invention.

These are not found persuasive for the following reasons: [1] The examiner respectfully disagrees.

First, Principles of Law

When the interpretation of the claim(s) is or may be in dispute, i.e., given one interpretation, a rejection under 35 U.S.C. 102 is appropriate and given another interpretation, a rejection under 35 U.S.C. 103(a) is appropriate.

When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

Second, **Sullivan** teaches **a system comprising: a composite display device** (a rear projector display 54, col. 6, lines 54-55; fig. 1) **comprising: a first display screen operable to display a first image using a first plurality of pixels of said first display screen** (a bottom display screen 40 displays the image 86, see col. 10, lines 3-5, and lines 13-14; fig. 6) **a second display screen overlapping said first display screen** (a stack of LCD elements forms the MOE device 32, col. 10, line 31. Thus, a top display screen 42 overlaps the bottom screen 40, see fig. 7) **wherein said second display screen is partially transparent** (LCD panels 40 and 42 or the bottom and the top display screen 40 and 42 are transparent, col. 10, lines 57-59) **wherein said second display screen is operable to display a second image using a second plurality of pixels of said second display screen** (a top display screen 42 displays the image 88, see col. 10, lines 5-6, and lines 13-14; fig. 7) **a user interface component for enabling user selection of at least one display screen, said at least one display screen for responding to an input, and wherein at least one display screen comprises a display screen selected from a group consisting of said first and second display screens** (the 3D pointing device, 3D mouse, or glove move a 3D cursor anywhere in the display volume around the image 34 in the same manner as a viewer 12 moves one's hand in true space, col. 20, lines 2-5. The field of view of the

MDV system 10 is continuous in all directions, that is, there are no disconcerting jumps in the 3D image 34 as the viewer 12 moves with respect to the MOE device 32, col. 20, lines 53-56.)

Applicants state that "Sullivan teaches projecting image (e.g. 86 and 88) onto stack of optical elements (Abstract; Figures 6 and 7), where each of the optical elements includes a single pixel (sic) (col. 8, lines 14-16)". In response, these are not found to be persuasive, the examiner finds that Sullivan teaches "the multiple optical elements device (MOE) device 32 is composed of a stack of single pixel liquid crystal displays (LCDs)" (col. 8, lines 14-16). In summary, Sullivan teaches "a stack of single pixel liquid crystal displays (LCDs)" NOT a single pixel.

The liquid crystal displays are explained in the underline as follows below:

Sullivan further teaches in col. 6, lines 1-24:

> The image projector 20 has associated optics 22 for projecting the two-dimensional slices 24-30 of the 3D image at a high frame rate and in a time-sequential manner to a multiple optical element (MOE) device 32 for selective imaging to generate a first volumetric three-dimensional image 34 which appears to the viewer 12 to be present in the space of the MOE device 32. The MOE device 32 includes a plurality of optical elements 36-42 which, under the control of the MVD controller 18, selectively receive each of the slices 24-30 as displayed two-dimensional images 44-50, with one optical element receiving and displaying a respective slice during each frame rate cycle. The number of depth slices generated by the MVD controller 18 is to be equal to the number of optical elements 36-42, that is, each optical element represents a unit of depth resolution of the volumetric 3D image to be generated and displayed.
>
> The optical elements 36-42 may be liquid crystal displays composed of, for example, nematic, ferroelectric, or cholesteric materials, or other polymer stabilized materials, such as cholesteric textures using a modified Kent State formula known in the art for such compositions.

The overall display of each of the slices 24-30 by the optical elements 36-42 of the MOE device 32, as a set of displayed images,"

In summary, Sullivan teaches a multiple optical element (MOE) device 32 includes the top LCD screen 42 and the bottom LCD screen 40 for selective imaging to generate the sets of displayed images. Further, each optical element or LCD(s) represents a unit of depth resolution of the volumetric 3D image to be generated and displayed.

One person of ordinary skill in the art must recognize that the image or resolution is made up of a plurality of pixels. The applicants argue with respect to the claimed limitation "a image using a first plurality of pixels." These are not found to be persuasive. The examiner did NOT find "a image using a first plurality of pixels" in the original disclosure. The examiner challenges the applicants and puts burden to the applicants to prove that whether "a image using a first plurality of pixels" is the new claimed invention or the well-known elements as the person of ordinary skill in the art has recognized that the image or resolution is made up of a plurality of pixels.

As the result, reference Sullivan does disclose limitations of claims 84, 96 and 120.

Therefore, the teaching of Sullivan does anticipate the device and method of the instant claims.

Independent claims 96 and 120 are rejected under same reasons as discussed for independent claim 84.

Claims 85-95, 97-107, and 121-132 are dependent claims and are also rejected under same reasons as discussed for the independent claims 84, 96 and 108.

For these reasons, the rejections of claims 84-133 have been maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN M. NGUYEN whose telephone number is (571)272-7697. The examiner can normally be reached on Monday-Thursday from 8:00-5:00.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M Nguyen/
Primary Examiner, Art Unit 2629

KMN
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